## AMENDMENTS TO THE CLAIMS

The listing of claims below replace all prior versions, and listings, of claims:

1. (Previously Presented) A method of determining performance of a communications system, comprising:

storing representations of plural components of the communications system, the components including a first packet-based network and at least one network device;

assigning performance parameters for each of the components, the performance parameters comprising at least a first performance parameter and a second performance parameter;

combining the first performance parameters of respective components to derive overall first performance parameters;

combining the second performance parameters of respective components to derive an overall second performance parameter; and

deriving a quality indication of the communications system based at least on the overall first and second performance parameters.

2. (Previously Presented) The method of claim 1, wherein the components include a second packet-based network, the method further comprising assigning performance parameters for the second packet-based network.

3. (Previously Presented) The method of claim 1, wherein assigning the performance parameters includes assigning a packet delay parameter.

4. (Previously Presented) The method of claim 1, wherein assigning the performance parameters includes assigning a packet loss parameter.

5. (Previously Presented) The method of claim 1, wherein assigning the performance parameters includes assigning a packet jitter parameter.

6. (Original) The method of claim 1, wherein storing the representations includes storing models of the plural components, the models capable of being linked to create a representation of the communications system.

7. (Original) The method of claim 6, further comprising providing a graphical user interface in which the models may be manipulated to create the representation of the communications system.

8. (Original) The method of claim 1, wherein deriving the quality indication includes calculating an E-model quality rating value.

9. (Original) The method of claim 1, further comprising combining the representations of the plural components to create the communications system.

10. (Cancelled)

11. (Currently Amended) The apparatus of claim ~~10~~ 35, wherein the one or more performance parameters include a packet delay.

12. (Original) The apparatus of claim 11, wherein the packet delay of each network component is treated as an independent variable.

13. (Original) The apparatus of claim 12, wherein the controller calculates an overall packet delay of the communications system by summing the packet delays of the plural components.

14. (Cancelled)

15. (Cancelled)

16. (Currently Amended) The apparatus of claim ~~10~~ 35, wherein the representation of the packet-based network includes a representation of a collection of links and routers.

17. (Currently Amended) The apparatus of claim ~~10~~ 35, wherein the representation of the packet-based network includes a representation of an Internet Protocol network.

18. (Currently Amended) The apparatus of claim ~~10~~ 35, wherein the packet-based network includes a public network, and wherein the storage device further contains a representation of a local network.

19. (Currently Amended) The apparatus of claim ~~10~~ 35, wherein the storage device further contains a representation of a circuit-switched device.

20. (Previously Presented) An article including one or more machine-readable storage media containing instructions for modeling performance of a communications system, the instructions when executed causing a controller to:

store models of plural components of the communications system, the plural components including a packet-based network and at least one network device, the stored models containing at least first performance parameters and second performance parameters associated with respective components;

combine the models to represent the communications system;

combine the first performance parameters of respective components to derive an overall first performance parameter;

combine the second performance parameters of respective components to derive an overall second performance parameter; and

determine a quality level of the communications system using at least the overall first performance parameter and overall second performance parameter.

21. (Original) The article of claim 20, wherein the instructions when executed cause the controller to derive an E-model rating using the stored models.

22. (Canceled)

23. (Original) The article of claim 20, wherein the performance parameters are associated with communications of packets through the communications system.

24. (Original) The article of claim 23, wherein the performance parameters include at least one of a packet delay, packet loss, and packet jitter.

25. (Cancelled)

26. (Previously Presented) The article of claim 20, wherein the performance parameters include at least one of a packet delay, packet jitter, and packet loss.

27. (Previously Presented) A data signal embodied in a carrier wave and including one or more code segments containing instructions for predicting performance of a communications system, the instructions when executed causing a controller to:

assign performance parameters to each of plural components in the communications system, the plural components including a packet-based network, the performance parameters comprising packet loss, packet jitter, and packet delay; and

derive a quality indication based on the packet losses, packet jitters, and packet delays of the plural components.

28. (Previously Presented) The method of claim 1, wherein combining the first performance parameters comprises combining packet delays of respective components to derive an overall packet delay, and wherein combining the second performance parameters comprises combining packet losses of respective components to derive an overall packet loss.

29. (Previously Presented) The method of claim 28, wherein the performance parameters further comprise packet jitter, the method further comprising combining the packet jitters of respective components to derive an overall packet jitter,

wherein deriving the quality indication is further based on the overall packet jitter.

30. (Previously Presented) The method of claim 1, further comprising assigning an audio CODEC type parameter to at least one of the components,

wherein deriving the quality indication is further based on the audio CODEC type parameter.

31. (Previously Presented) The method of claim 1, further comprising assigning at least one of a signal loss parameter, echo parameter, and noise parameter to at least another one of the components,

wherein deriving the quality indication is further based on the at least one of the signal loss parameter, echo parameter, and noise parameter.

32. (Previously Presented) The method of claim 1, wherein deriving the quality indication comprises deriving a mean opinion score (MOS).

33. (Previously Presented) The method of claim 1, wherein deriving the quality indication comprises deriving a value that is representative of a subjective perceived quality of communications in the communications system by a user.

34. (Currently Amended) The apparatus of claim ~~10~~ 35, wherein the value comprises at least one of an E-model quality rating value, mean opinion score (MOS), percentage of users that view a connection as good or better, percentage of users that view a connection as poor or worse, and percentage of connections that users may terminate early due to quality problems.

35. (Currently Amended) ~~The apparatus of claim 10~~ An apparatus for determining performance of a communications system, comprising:

a storage device containing representations of plural components of the communications system, the plural components including a packet-based network and at least one network device, each of the components being assigned one or more performance parameters; and

a controller to calculate a predicted quality of the communications system based on the one or more performance parameters, wherein the predicted quality comprises a value that is representative of a subjective perceived quality of communications in the communications system by a user,

wherein the performance parameters comprise at least first and second performance parameters;

the controller to combine the first performance parameters of respective components to derive an overall first performance parameter, and the controller to combine the second performance parameters of respective components to derive an overall second performance parameter, the controller to calculate the predicted quality based at least on the overall first performance parameter and the overall second performance parameter.

36. (Previously Presented) The article of claim 20, wherein the quality level comprises a mean opinion score (MOS).

37. (Previously Presented) The data signal of claim 27, wherein deriving the quality indication comprises deriving at least one of an E-model quality rating and a mean opinion score (MOS).